

इंटरनेट

मानक



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Mazdoor Kisan Shakti Sangathan

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“Step Out From the Old to the New”

IS 11073 (1984): Expansion Bolts for Mountaineering [PGD
27: Mountaineering Equipment]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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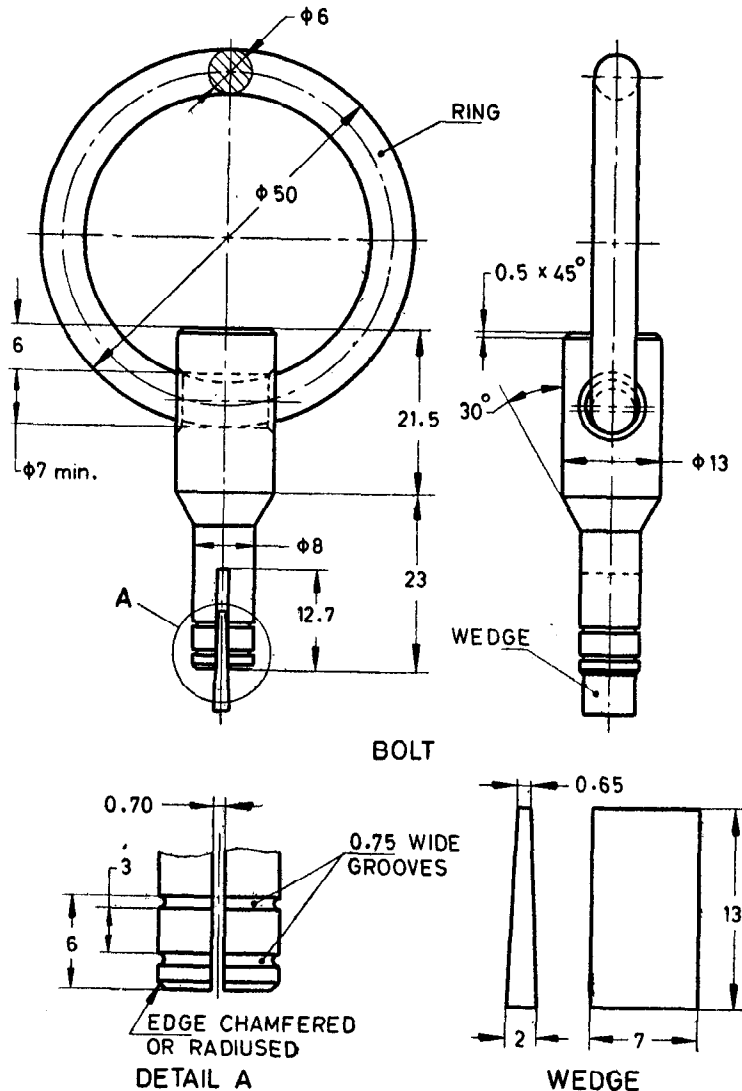


Indian Standard

SPECIFICATION FOR EXPANSION BOLTS FOR MOUNTAINEERING

1. Scope — Specifies the requirements for expansion bolt for mountaineering.

2. Dimensions — Shall be as given in Fig. 1.



All dimensions in millimetres.

FIG. 1 DIMENSIONS FOR EXPANSION BOLT

3. Material

Components

Ring

Material
Bright drawn mild steel wire conforming to IS : 280-1978 'Mild steel wire for general engineering purposes (third revision)' in $\frac{1}{4}$ hard condition.

Bolt

Bright cold drawn bar to designation St 42 of IS : 9550-1980 'Bright bars'.

Wedge

Steel strip to designation C80 of IS : 7226-1974 'Cold-rolled medium, high carbon and low alloy steel strip for general engineering purposes'.

Adopted 26 September 1984

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4. Hardness

Components	Hardness
Ring	115 HV 5 [see IS : 1501-1968 ' Method for Vickers hardness test for steel (first revision) '].
Bolt	205 HV 5
Wedge	275 HV 5

5. General Requirements

- 5.1 The body shall be so manufactured without having any sharp corners.
- 5.2 The expansion bolts shall be free from cracks, pits, flaws and other defects.
- 5.3 The expansion bolts shall be given adequate surface treatment against atmospheric corrosion by zinc coating.

6. Tests

6.1 *Load Test* — The bolt shall be held on as shown in Fig. 2 and a load of 13.5 kN shall be applied for 5 minutes. At the end of the test there shall be no deformation or crack in the expansion bolt.

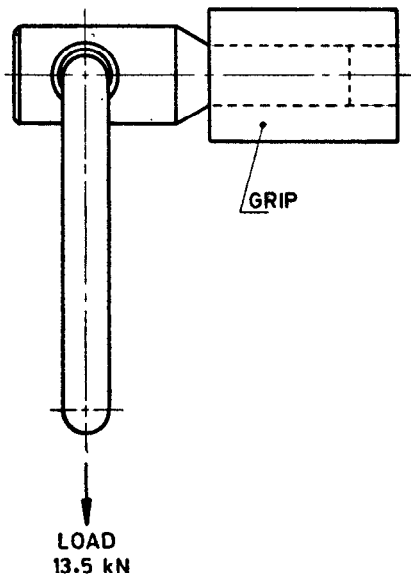


FIG. 2 LOAD TEST FOR EXPANSION BOLT

- 6.2 *Crack Detection Test* — Each expansion bolt shall be subjected to crack detection test.
- 7. **Marking** — The expansion bolt shall be legibly stamped or marked with manufacturer's name or recognized trade-mark. The expansion bolts shall be packed in accordance with best prevalent trade practices.
- 7.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

EXPLANATORY NOTE

This standard gives the requirements for expansion bolts for rock climbing used in mountaineering. Expansion bolt is a device for artificial climbing when no cracks in rock are available and a hole is drilled to insert the expansion bolt to act as piton for aid or security. While preparing this standard considerable assistance has been derived from the information supplied by Department of Mountaineering and Allied Sports, Manali. The material, hardness and coating required have been given on the basis of test report supplied by DMRL, Hyderabad.